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# AIP SUPPLEMENT MALAYSIA

PHONE : 6-03-8871 4000  
TELEX : PENAWA MA 30128  
FAX : 6-03-8881 0530  
AFTN : WMKKYAYS  
COMM : AIRCIVIL  
KUALA LUMPUR

AERONAUTICAL INFORMATION SERVICES  
DEPARTMENT OF CIVIL AVIATION  
NO. 27, PERSIARAN PERDANA  
LEVEL 1-4, PODIUM BLOCK, PRECINCT 4,  
62618 PUTRAJAYA  
MALAYSIA

23 / 2007  
21 JUNE

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## KUALA LUMPUR FLIGHT INFORMATION REGION KL INTERNATIONAL AIRPORT

### ADVANCED SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEMS – MULTILATERATION SURVEILLANCE SYSTEM (MSS) DEPLOYMENT AT KLIA

#### 1. INTRODUCTION

- 1.1 The purpose of this AIP supplement is to notify the aviation industry on the introduction of multilateration surveillance system(MSS) at K. L. International Airport.
- 1.2 The system has been deployed as a solution to meeting the surveillance requirements of Advanced Surface Movement Guidance and Control System (A-SMGCS).
- 1.3 The ICAO manual of A-SGMCS describes how traffic should be controlled on the surface of an airport, based on the principle of “see and be seen” concept. As the current system based at KLIA has limitations, the Department Of Civil Aviation with the cooperation of the Ministry of Transport has decided to introduce improved surveillance and procedures for air traffic controllers.
- 1.4 Multilateration technology provides accurate surveillance and identification of all aircraft and transponder equipped vehicles on the airport surface. Controllers can see the positions of each aircraft and vehicle securely tagged with its identification on a dedicated display screen. This is not only good in bad visibility but also in good visibility especially when multiple aircraft with similar colour schemes are manoeuvring in close proximity to one another.

#### 2. MULTILATERATION GROUND SYSTEMS WORKING PRINCIPLE

- 2.1 The ground systems consist of a number of Receiver units, Receiver/Transmitter units, a Reference Transponder (all non-rotating sensors) and a Central Processing Station. KLIA will have 23 remote sensors. The multilateration system uses multiple receivers to capture the transmissions from transponders. Then, by comparing the time difference, the system calculates the position. For the aircraft, the system will get the identity by selectively interrogating the transponder to receive the assigned Mode A code or the Aircraft Identification (The ICAO call sign used in flight shall be inserted in the FMS or Transponder Control Panel). The system will get the identity of vehicles by the unique Mode S address transmitted by the transponder. The system normally uses three or more receivers to calculate the position of an aircraft or transponder equipped vehicle.

### **3. FLIGHT CREW REQUIREMENTS**

#### **3.1 Pre-Push back/taxi**

The pilot will be requested to enter a Mode A at start up (assigned Mode A code). This code will be either a discrete code or the non-discrete code 1000. Whenever the aircraft is capable of reporting Aircraft Identification, the identification of the aircraft should also be entered through the FMS or the Transponder Control Panel. Flight crew must use the 3-letter ICAO designator of the operator followed by the flight identification number (e.g. MAS123, AXM4567, TSE890, etc.)

The ATC system will make the correlation with the flight plan (FPL) either from the discrete code or, when the non-discrete code 1000 is entered, or from the Aircraft Identification entered through the FMS or the Transponder Control Panel.

Pilots should ensure that the transponder is operating (set XPNDR or the equivalent according to specific installation, AUTO if available, not OFF or STBY) and the assigned Mode A code selected from the request for push back or taxi, whichever is earlier.

#### **3.2 After landing**

Pilots should ensure that the transponder is operating (set XPNDR or the equivalent according to specific installation, AUTO if available, not OFF or STDBY) after landing continuously until the aircraft is fully parked on stand.

### **4. IMPLEMENTATION**

The MSS is scheduled to go into operation in December 2007. Trigger NOTAM will be issued to notify the effective date of implementation.

### **5. CANCELLATION**

This AIP Supplement will remain current until the information is published in AIP Malaysia.

**DATO' IR KOK SOO CHON**  
**Director General**  
**Department of Civil Aviation**  
**Malaysia**